

REMARKS

STATUS OF APPLICATION

No claims have been added, amended, or canceled in this paper. Accordingly, claims 1, 2, 4-13, and 15-41 are pending in the present application. Claims 16-41 stand withdrawn from consideration.

35 USC § 103 REJECTIONS

Claims 1, 2, 4-13, and 15 are allowable over Wilson in view of the Uzoh

Claim 1, 2, 4-13, and 15 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent Application Publication No. 2002/0032499 to Wilson *et al.* in view of the U.S. Patent No. 6,685,814 to Uzoh *et al.* The rejection, however, fails because the cited references fail to teach or suggest all of the claimed limitations.

As the Examiner well knows, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. Moreover, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); M.P.E.P. § 2143.03.

With respect to alleged obviousness, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. The consistent criterion for determining obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894 (Fed. Cir. 1988); M.P.E.P. § 2142.

A recent Federal Circuit case makes it crystal clear that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35.

Independent claims 1 and 6 each requires revising at least one parameter selected from the group consisting of a chemical concentration of an electroplating bath and an anode-cathode spacing of a deposition recipe if a measured thickness of a conductive layer is not within the predetermined tolerance. The Office relies on Uzoh to disclose "the thickness of an electroplated conductive layer may be affected by revising at least one parameter selected from the group

consisting of a chemical concentration of an electroplating bath (col. 2, lines 49-62)" (page 3, lines 8-10, of the present Office Action).

Uzoh, however, fails to disclose or suggest any aspect of revising the chemical concentration of the electroplating bath. Rather, Uzoh teaches a process wherein "the localized concentration of ions in the electrolytic bath in contact with different parts of the target film" is modified (emphasis added). Uzoh explains that this is "achieved by modifying the current flow or by shaping the potential field between anode and cathode (the workpiece or wafer) and the localized current flow rate as it approaches the electroetching or electroplating target" (col. 2, ll. 64-67, of Uzoh). In other words, the localized concentration of ions (not the chemical concentration of the bath) is affected by modifying electrical (not chemical) aspects of Uzoh's system. Specifically, Uzoh teaches "[u]niformity of deposition or etching is promoted, particularly at the edge of the target film, by baffle and shield members through which the bath passes as it flows toward the target. In general, the baffle/shield combination "shapes" the potential field lines next to the target electrode" (col. 2, ll. 6-10, of Uzoh). Uzoh cannot render the present invention set forth in claims 1 and 6 obvious because it fails to disclose revising the chemical concentration of the electroplating bath, as alleged by the Office.

It is respectfully submitted that any attempt to assert that Wilson and Uzoh, either singly or in combination, disclose or suggest the claimed invention as a whole is necessarily based on an improper use of hindsight using Applicant's disclosure as a roadmap.

Claims 2, 4, and 5 depend from independent claim 1 and claims 7-15 depend from independent claim 6. The remarks provided above concerning claims 1 and 6, therefore, apply equally to claims 2, 4, 5, and 7-15.

Therefore, it is respectfully requested that the rejection of claims 1, 2, 4-13, and 15 under 35 U.S.C. § 103(a), as being unpatentable over Wilson in view of Uzoh, be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing remarks, this application is considered to be in condition for allowance, and an early reconsideration and issuance of a Notice of Allowance are earnestly solicited. The Examiner is invited to contact Daren C. Davis at (817) 578-8616 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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Date: October 26, 2004

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